

March 29, 2017



U.S. Department
of Transportation

East Building, PHH-30
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

**Pipeline and Hazardous
Materials Safety Administration**

DOT-SP 15404
(FOURTH REVISION)

EXPIRATION DATE: 2021-02-28

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Proserv UK Limited
Aberdeen, Scotland, UK
(U.S. Agent: Luxfer Gas Cylinders
Riverside, CA)
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the transportation in commerce of certain materials described in paragraph 6 below, in non-DOT specification cylinders used for oil well sampling. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.
 - b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce.
 - c. No party status will be granted to this special permit.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.201, 173.302a, and 173.304a in that a non-DOT specification cylinder is not authorized, except as specified herein; § 173.301(f) in that each non-DOT specification cylinder is not equipped with a pressure relief device.

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5. BASIS: This special permit is based on the application of Proserv UK Limited, dated January, 6, 2017, submitted in accordance with § 107.109 and additional information dated March 6, 2017.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Argon, compressed	2.2	UN1006	N/A
Compressed gas, flammable, n.o.s.	2.1	UN1954	N/A
Compressed gas, toxic, flammable, n.o.s. Inhalation hazard Zone B	2.3	UN1953	N/A
Hydrocarbon gases mixtures, compressed, n.o.s.	2.1	UN1964	N/A
Hydrocarbon gases mixtures, liquefied, n.o.s.	2.1	UN1965	N/A
Hydrogen sulfide	2.3	UN1053	N/A
Liquefied gas, flammable, n.o.s.	2.1	UN3161	N/A
Methane, compressed or Natural gas, compressed (with high methane content)	2.1	UN1971	N/A
Methane, refrigerated liquid (cryogenic liquid) or Natural gas, refrigerated liquid (cryogenic liquid), with high methane content)	2.1	UN1972	N/A
Nitrogen, compressed	2.2	UN1066	N/A
Petroleum crude oil	3	UN1267	I
Petroleum gases, liquefied or Liquefied petroleum gas	2.1	UN1075	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Prescribed packaging is a non-DOT specification, seamless oil well sampling cylinder, threaded on both ends, with a maximum design pressure of 10,000 psig, and a maximum volume of 1,000 cc. Each cylinder must comply with the design calculations, drawings, material specifications, and engineering specifications submitted with Proserv's application for special permit on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD). In addition, each cylinder must conform with §§ 178.35 and 178.36 except as follows:

§ 178.35(e) *Safety devices.*

No pressure relief device is required on the completed cylinder. Cylinder must be equipped with elastomeric seals that relieve pressure when subjected to a pool fire.

§ 178.35(f) *Marking.*

Applies except that cylinders must be marked "DOT-SP 15404" in lieu of the DOT Specification marking.

§ 178.36(b) *Titanium.*

Titanium cylinders, shall be manufactured with Ti Grade 5 UNS R56400 or Ti-6246 UNS R56260 shells and with Grade 2 UNS R50400 screwed end caps. Ti-6246 UNS R56260 and Titanium Grade 2 UNS R50400 Material must meet the requirements of the National Association of Corrosion Engineers (NACE) Specification MR-01-75 for suitability in hydrogen sulfide (H₂S) service.

§ 178.36(f) *Wall thickness.*

The minimum wall thickness must be such that the wall stress at the minimum specified test pressure may not exceed 67 percent of the minimum yield strength of the steel as determined from the physical tests required in paragraphs (k) and (l) and shall not be less than 0.392" inches or 9.95 mm.

§ 178.36(g) *Heat treatment.*

No heat treatment required for the completed cylinder.

§ 178.36(j) *Flattening test.*

No flattening test is required.

§ 178.36(l) *Acceptable results for physical tests.*

a) Titanium Grade 2 in accordance with ASTM B348-03/UNS-R50400:

Tensile Strength 50,000 PSI (345MPa) minimum

Yield Strength (0.2% Offset) 40,000 PSI (275MPa) minimum

Elongation in 4D 20% minimum

Reduction in Area 30% minimum

Hardness 100HRB Maximum

b) Titanium Grade 5 in accordance with ASTM B348-03/UNS-R56400:

Acceptable Results from physical tests.

Tensile Strength 130,000 PSI (895MPa) minimum

Yield Strength (0.2% Offset) 120,000 PSI (828MPa) minimum

Elongation in 4D 10% minimum

Reduction in Area 25% minimum

Hardness 40HRC Maximum

c) Titanium 6246 - Ti-6Al-2Sn-4Zr-6Mo UNS-R56260:

Acceptable Results from physical tests.

Tensile Strength 145,000 PSI (1000MPa) minimum

Yield Strength (0.2% Offset) 135,000 PSI (931MPa) minimum

Elongation in 4D 14% minimum

Reduction in Area 25% minimum

Hardness 45 HRC Maximum

b. TESTING -

(1) Each cylinder must be requalified hydrostatic tester via water jacket method in accordance with § 180.209(a) as prescribed for DOT 3A Specification cylinders..

(2) Reheat treatment or repair of rejected cylinders is not permitted.

(3) When a hydrostatic retest of a cylinder is performed due to equipment failure as authorized in § 180.209(f), only two such retests are permitted.

c. OPERATIONAL CONTROLS -

(1) Each cylinder must be packed in the transportation box as specified in the application for special permit on file with the OHMSAPD.

(2) Emergency response information provided with the shipment, and available via an emergency response telephone number, must indicate that the receptacles are not fitted with pressure relief devices and provide appropriate guidance in case receptacles are exposed to fire.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this special permit who receives a package covered by this special permit may reoffer it for transportation provided no modification or change is made to the package and it is reoffered for transportation in conformance with this special permit and the HMR.

b. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

c. The cylinders are authorized for oil well sampling service only.

d. Transportation of Division 2.1 (flammable gases) materials are not authorized aboard cargo vessel or aircraft unless specifically authorized in the Hazardous Materials Table (§ 172.101).

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, and cargo aircraft only.

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel or aircraft used to transport packages covered by this special permit. The shipper must furnish a current copy of this special permit to the air carrier before or at the time the shipment is tendered.

11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
- o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when the special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)- "The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous

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materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for William Schoonover
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-30, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: SStaniszewski/TD